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ABSTRACT

The final volume in a series of six evaluation reports, this document provides a summary of the results of the evaluation of Project Developmental Continuity (PDC), conducted when the evaluation study's cohort of children had completed grade 1. Begun at 15 sites in 1974 with the purpose of ensuring that disadvantaged children receive continuous individualized attention as they progress from Head Start through the early primary grades, PDC emphasizes the involvement of school personnel and parents in formulating educational goals and in curriculum development. Chapter I of this volume presents a brief history of the PDC program. Chapter II describes the conceptual framework guiding the evaluation of PDC processes and effects. Data collection and analysis procedures are discussed in Chapter III. Chapters IV, V, VI and VII present results for each of the four major areas studied: institutional policies and procedures: teacher attitudes and behaviors as related to classroom and parents: parent attitudes and behaviors as related to their child's school: and the achievement of the children. Additionally, the initial analyses of interrelationships between the four major areas, such as the relationship between teacher attitudes and parental involvement with their child's school, are summarized. (Author/PH)

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Project Developmental Continuity Evaluation

Interim Report X: Assessment of Program Impact Through First Grade

ED205280

Vol. VI

Summary of Impact on Institutions, Teachers and Classrooms, Parents and Children

PS012291

December 1980, High/Scope Educational Research Foundation

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AN EVALUATION OF PROJECT DEVELOPMENTAL CONTINUITY
INTERIM REPORT X

ASSESSMENT OF PROGRAM IMPACT THROUGH FIRST GRADE, VOLUME VI: SUMMARY OF IMPACT ON INSTITUTIONS, TEACHERS AND CLASSROOMS, PARENTS AND CHILDREN

December 1980

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That influence will be the direct result of the concern for effective programs which has consistently been evidenced by members of the program staff of ACYF. We wish to extend our thanks to Ray Collins, Jenni Klein, Austine Fowler, and Stephen Bedi, who have been supportive of the evaluation effort and interested in the implications of our evaluation results for Project Developmental Continuity and for other ACYF initiatives.

Special thanks go to the coordinators of the PDC sites for their invaluable assistance with the myriad necessary data collection activities. We extend our thanks to those individuals who were coordinators at the time of the grade 1 data collection (1979) and to those individuals who are coordinators at this time: Jesse Beard, Stephen Bedi, Tony Bozich, Nazario Carrillo, Glenda Dodd, Deloris Johnson, Beatrice Kenney, Sande Kirby, Patricia Lanier, Mary D. Levermann, Betty Minor, Geraldine Sanders, Fannie Smith.

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Working with the students, teachers, and parents a dedicated team of local data collectors, testers, interviewers, and observers has diligently tracked down students, arranged observation and interview schedules with teachers, located parents, and scheduled (and re-scheduled) interviews as necessary. The national evaluation of PDC has depended upon the energies and professional skills of these individual consultants who mastered the

data collection procedures and then applied those procedures in the field to gather all of the information upon which this evaluation report is based. Many of these individuals, trained during the first year of data collection in 1975, have continued to work with us over the years. Their long-term efforts have enhanced the quality of this evaluation.

Members of the PDC Advisory Panel have provided continual expert review of the evaluation work and valuable suggestions for resolution of technical difficulties. They have been especially helpful in pinpointing various implications of the research findings. For their willingness to consult with us and for their advice about the directions that the evaluation should take, we acknowledge the contributions of Dr. Eva Baker, Dr. Charles Billings, Dr. Jere Brophy, Dr. Robert Dixon, Dr. J. Ward Keesling, and Dr. Luis Laosa.

Within the High/Scope Educational Research Foundation, many staff members have participated in the work which has cumulated in this report. While a few individuals receive recognition as authors, many others deserve recognition as well. Among these are members of our data processing unit: Barbara Bruemmer, Ann Hale, Kim Marker, Jeffrey Moore, Kelly Naylor, Nancy Naylor, Jane Oden. These individuals are responsible for the careful checking in, coding, data entry, data verification, and initial analysis of information collected from a dozen sites, on hundreds of children, parents, teachers, and school administrators. Their attention to detail, their willingness to document their work, their concern with the protection of the privacy of individual respondents, and their flexibility in working with a variety of data collection instruments have all resulted in our confidence in the high quality of the data on which this evaluation report is based.

Another major unit responsible for quality of data is the field operations unit, supervised by Mary Morris. Her calm handling of the many problems which occur during data collection in a dozen sites across the country and her concern for quality in the selection, training and supervision of data collectors, have resulted in a smooth data collection operation. Mary has been ably assisted by Barbara Bruemmer.

Another major team within the Foundation which has been essential to the smooth operation of this evaluation effort is the administrative team. Lynn Spencer has proved invaluable in coordinating activities, gently reminding us of tasks to be done, resolving problems, and handling a million details. Lynn has been supported in this effort by Jana von Fange, who, in addition to her many other responsibilities, has supervised the typing and final proofing of this report. For secretarial assistance in the preparation and production of this report we extend our appreciation to Gail Pheister and Shirley Barnes. Editorial assistance through all the stages of production has been provided by Lynn Spencer: once again we extend our appreciation to Lynn.

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To these individuals, named and un-named, we extend our appreciation for their involvement in this work and their continuing interest in the impact of Project Developmental Continuity upon the school districts, teachers and classrooms, parents, and children involved in this major project funded by the Administration for Children, Youth and Families.

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I

INTRODUCTION

Project Developmental Continuity (PDC) was begun in 1974 by the Administration for Children, Youth and Families (ACYF) as the first large-scale demonstration of coordinated programming between Head Start centers and public schools at fifteen sites distributed across the HEW regional offices and the Indian and Migrant Program Division. It is hoped that the single most important effect of this undertaking will be to enhance the social competence of the children served--that is, to increase their everyday effectiveness in dealing with their environment (at school, at home, in the community, and in society). PDC also aims to bring about broader and more intensive involvement of parents and teachers in the governance of school affairs.

As part of the overall Head Start improvement and innovation effort, PDC emphasizes the involvement of administrators, classroom staff, and parents in formulating educational goals and developing a comprehensive curriculum. The object is to ensure that children receive continuous individualized attention as they progress from Head Start through the early primary grades. If the program is successful, existing discontinuities between Head Start and elementary school experiences will be reduced by PDC mechanisms that encourage communication and mutual decision-making among preschool and elementary school teachers, administrators and parents.

School organizations at the fifteen sites received funding to design and implement seven prescribed program components: administration, education, training, developmental support services, parent involvement, services for the handicapped, bilingual/bicultural and multicultural education. The component areas are described in more detail in a later section of this report.

At the same time that projects were instituted, the High/Scope Educational Research Foundation was awarded the evaluation contract, the major purpose of which was to provide ACYF with information that would assist it in its efforts to design effective programs for children. The contract called for the collection and analysis of process and impact data involving both quantitative and qualitative methodologies.

The evaluation has proceeded in two phases. From 1974 to 1978, evaluation activities were aimed at analyzing program implementation and assessing the feasibility of doing a five-year longitudinal study that would follow one cohort of children from the time they entered Head Start until they completed third grade.[1] After judging the study feasible, ACYF funded the current phase of the evaluation (1979-1982) to examine the impact of PDC on participating institutions, teachers and classrooms, parents and children in eleven of the twelve sites still participating in the project.

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[1]The results of this phase of the evaluation are described in Love, Granville and Smith, 1978; Smith, Love, Morris, Spencer, Ispa and Rosario, 1977.

This volume, Summary of Impact on Institutions, Teachers and Classrooms, Parents and Children, is the sixth of a series reporting impact findings as of spring of the study cohort children's first-grade year (1979). Other volumes in the series include:

- Volume I, Assessment of Program Impact Through First Grade: The Context, Conceptual Approach and Methods of the PDC Evaluation. Serves as an introduction, providing a detailed description of the PDC program and the purpose, methods and guiding framework of the impact evaluation.

- Volume II, Impact on Institutions. Describes findings dealing specifically with PDC's impact on the institutional policies and procedures of participating Head Start centers and elementary schools. These findings are presented in the context of the varied social and educational settings surrounding PDC.

- Volume III, Impact on Parents. Investigates the impact of PDC on the parents of children in the evaluation cohort and, in a preliminary fashion, the relationship between family characteristics and outcome variables.

- Volume IV, Impact on Teachers. Reports impact findings on teachers and classrooms. These impacts reflect treatment-related outcomes as well as outcomes regardless of treatment.

- Volume V, Impact on Children. Presents the findings of analyses of PDC's impact on the PDC evaluation's cohort of children as of the end of grade 1. The volume also contains some preliminary examinations of the relationship between variables in the teacher, parent and child domains.

This volume summarizes the evaluation results for 1979, when the cohort of children being studied in the evaluation had completed grade 1. Results are presented for each of the four major areas: institutional policies and procedures, teacher attitudes and behaviors in the classroom and with parents, parent attitudes and behaviors in relation to their child's school, and the achievement of children. In addition, the volume summarizes the initial analyses of inter-relationships between the four major areas, such as the relationship between teacher attitudes and parent behaviors concerning involvement with their child's school.

II

THE CONTEXT AND PURPOSE OF THE PDC EVALUATION

The purpose of this section is to provide a description of Project Developmental Continuity (PDC) and to discuss the overall purpose of the evaluation. We begin with the origins and development of the PDC program and then discuss the purpose, design and information needs of the evaluation.

The Origins of PDC

As a national demonstration program within Head Start, Project Developmental Continuity belongs to a family of experimental efforts undertaken by the Administration for Children, Youth and Families that has included Parent-Child Centers, Home Start, Health Start, the Parent-Child Development Centers, and the Child and Family Resource Program. As a group, these experimental programs "ensure that Head Start is provided with a continuing supply of tested and proven approaches to serving children..."[1]

The particular mission of PDC, as it was planned in 1972-73, was to respond to evaluation data which appeared to demonstrate that Head Start's impact on children was short-lived:

> *Evaluation and research results document clearly that children who attend Head Start are more elevated in their functioning than children who do not. However, the research also shows that this superiority fades during the early primary years unless the child is involved in a special program which builds upon the benefits of the pre-school experience. Based on these observations, a new experimental effort will focus on ways of providing developmental continuity between Head Start and the early school years.* (Office of Child Development, planning document, no date; see footnote 1.)

Thus, PDC established Head Start-public school coordination as a central feature, in addition to maintaining the features of other Head Start programs such as parent involvement, health and nutrition services, services for handicapped children, and staff support and training. In a subsequent planning document, ACYF further articulated the goals of PDC:

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[1]Office of Child Development, "FY 1973 Goals and Plans for Improvement and Innovation in Project Head Start," no date.

This project is designed to enhance the social competence of each participating child, that is, to increase each child's everyday effectiveness in dealing with his environment and responsibilities in school and life. Specific goals of the project are: (1) to assure continuity of experience for children from preschool through the early primary years by stimulating cognitive, language, social-emotional and physical development, promoting educational gains for children through development of social competence; and (2) to develop models for developmental continuity that can be implemented on a wide scale in Head Start and other child development programs and school systems.[1]

Development of the PDC Program

The PDC program began in 1974 at 15 sites distributed across the ten HEW regional offices and the Indian and Migrant Program Division. The entire first year of program operation was designated a planning year. During the planning year, staff were hired, component area task forces were appointed, and detailed plans for actual implementation were initiated.

During Year II (1975-76), 14 sites (the New York program had withdrawn), comprising a total of 42 Head Start centers and elementary schools, began to implement their plans. Program Year III (1976-77) was officially designated the "implementation year" in the original project design, by which time programs were expected to be fully implemented and operational. During the implementation year, evaluation staff began to collect data on the cohort of children who entered PDC and comparison Head Start centers.

Years IV-VI (1977-81) are continuation years. During this period, programs are expected to continue receiving funding as they move toward "institutionalization" or integration within the educational system of the local school districts, which will then assume all fiscal responsibility for the programs as of mid-1981.

At present, 12 sites are participating in the demonstration project. The program in New Jersey withdrew at the end of Year II, and the West Virginia program ceased operations at the end of Year IV. Sites included in the evaluation as of spring 1979 are located in California, Colorado, Connecticut, Florida, Georgia, Iowa, Maryland, Michigan, Texas, Utah, and Washington. The Arizona site remains part of the demonstration project, but has not been included in the evaluation since 1978 when a complete program case history was written (see Interim Report VII, Appendix D).

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[1]Administration for Children, Youth and Families. Research, Demonstration and Evaluation Studies, Fiscal Year 1978. Washington, D.C.: Author, 1977.

The Two Program Models

The Head Start-public school coordination required by PDC was initially defined in terms of two program models. In the Preschool-School Linkages approach, administratively separate Head Start and elementary programs were brought together by the device of a PDC Council, whose membership included teachers, parents, administrators from both organizations, and community representatives. In the Early Childhood Schools approach, Head Start and elementary programs were combined both administratively by the Council and physically in the same building, thus creating a new institution. In practice, as the programs have evolved over time, the distinction between these models has blurred; there are now, in fact, a wide variety of specific mechanisms that allow for the coordination required by PDC.

PDC Guidelines

To support the implementation of PDC, the Program Development and Innovation Division within ACYF designed several vehicles: national program guidelines, training and technical assistance contractors, and national workshops. In spring 1974 a document entitled "Guidelines for a Planning Year" was distributed to prospective sites to serve as a guide for preparing initial proposals. These guidelines were revised in September 1974 and supplemented by periodic "program letters" issued by the national office. These early guidelines contained both requirements for the development of program components and suggested activities within each component.

At the beginning of the start-up year (November 1975) the "PDC Implementation Year Guidelines" were published, describing basic elements that were to be present in each PDC program and clarifying for the programs the distinction between required elements and suggested activities. These guidelines became the basic mechanism for guiding program implementation activities from fall 1975 through summer 1978 when another revision was issued. The revised 1978 guidelines differed from the previous versions primarily in their attempt to consider the matured status of the programs and in an added concern with self-assessment and formative evaluation. Over time, the needs of the various programs diverged and, within programs, the needs of different components varied. Thus, the guidelines now encourage programs to adjust their component activities to current needs rather than to follow a prescribed schedule of activities across programs. The seven program components described in each of the guidelines are the following:

- Administration: administrative coordination between and within Head Start and the elementary school(s)
- Education: coordination of curriculum approaches and educational goals
- Training: preservice and inservice teacher, staff and parent training in program-related areas

- Developmental support services: comprehensive services (medical, nutritional, and social) to children and families

- Parent involvement: parent participation in policy making, home-school activities, and classroom visits or volunteering

- Services for the handicapped: services for handicapped children and children with learning disabilities

- Bilingual/bicultural and multicultural education: programs for bilingual/bicultural or multicultural children.

The guidelines have consistently outlined requirements and suggestions in these seven areas. They have established areas of program responsibility while leaving specific manifestations open to local initiative and interpretation. As such, they represent a unique approach to educational change. Rather than dictate very specific innovative changes, the guidelines provide a framework for innovation. There are at least three reasons for this characterization of the guidelines.

First, PDC is not a single discrete innovation. Much of the literature on educational change describes one of two types of innovation: (a) the implementation of a new curriculum element such as the "new math" or a special reading program, or (b) the creation of "new schools"[1] (for examples of the former see Berman & McLaughlin, 1975; Fullan & Pomfret, 1977; or Gross, Giaquinta & Bernstein, 1971; for examples of the latter, see Deal, 1975; Miles, 1978; or Smith & Keith, 1971). PDC, however, is not quite like either of these innovations. It is, on the one hand, far more comprehensive than any of the discrete innovations reported by Fullan and Pomfret: the guidelines require a particular type of curriculum, plus a program for bilingual/bicultural and/or multicultural children plus a program of services for handicapped children, plus a parent involvement program, and so on. Yet, unlike "new schools," PDC programs began with a set of guidelines that provided some explicit direction for planning activities.

We might think of the guidelines, for example, as prescribing a detailed set of planning procedures (the PDC Council, parent involvement in planning services for handicapped children, and so on) and then sketching what the products of that planning should look like (the PDC curriculum must be developmentally appropriate, emphasize individualized instruction, and so on). This means that at most sites PDC has resulted in two kinds of innovation: one large (the new mechanisms for planning and decision-making) and several smaller (the programs and activities created through those mechanisms). The outline of the large innovation (the framework)

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[1]Miles, Sullivan, Gold, Silver, and Wilder (1978) define a "new school" as, "...a total school program (not a minor project, course, or other innovation) which is created more or less de novo (is not simply a redesign of an existing school) and which its creators experience as different from their own past experiences."

was mapped explicitly by ACYF, and in that respect PDC resembles some of the more discrete "packaged" innovations described in the literature. The smaller innovations resulting from that framework, however, had to be planned independently by each local project; in this respect PDC resembles some of the "new schools."

Second, the units of change in PDC are not isolated classrooms or schools, but parts of several schools or centers. PDC extends beyond single classrooms and encompasses parts of the elementary schools and the Head Start centers with which it is associated. To the extent that the project extends beyond individual classrooms, it has much in common with new schools: basic changes are being made not only in what individual teachers do within their own classrooms, but also in how those teachers interact with one another, in how decisions are made, and in the range of services that are offered to the whole child. However, because PDC involves less than the whole of any one school, but perhaps parts of several schools the situation is also more complex than faced by new schools. Local PDC projects require the involvement of elementary school principals and Head Start center directors whose time and energy has to be divided between PDC and non-PDC teachers. They have to contend with non-PDC teachers who are at best uninvolved in the project and occasionally antagonistic. They are faced, on occasion, with conflicts between the aims and methods of PDC and the programs in the rest of the center or school. Perhaps most troublesome has been the task of establishing and maintaining communication among teachers who are located in separate buildings. Adequate communication has been found difficult enough to achieve in self-contained new schools; the problems are compounded when the participating classes are sometimes miles apart.

Third, PDC is designed to create linkages between two distinct programs rather than to change a single existing program. Most of the literature describes attempts to change one program, either by introducing new curriculum packages in the classroom or by completely restructuring the school. PDC has elements of this, but it also has another overriding objective: to bring about continuity between the local Head Start and early elementary programs. Aside from the difficulties caused by the participating programs residing in different buildings, the fact that two distinctly different programs are to be linked introduces its own complications. For example, at most sites, even those with Early Childhood Schools, two separate administrations are involved. Programs that had existed separately for years are now expected to coordinate their planning and other activities.

The analyses of program implementation conducted during the first phase of the evaluation found considerable diversity among the PDC programs in their response to this approach to innovation, but as our phase one final report concluded:

> *The approach ACYF adopted for PDC was one of providing a 'framework for innovation' rather than dictating specific innovative practices. Within this framework a number of strong local programs have developed. From the perspective*

of extensive implementation data, it seems that the PDC framework offers a potentially effective model of educational change. As the evolution of PDC continues over the next few years, the models for continuity should become stronger and clearer. (Love, Granville & Smith, 1978, p. 49)

Training and Technical Assistance to Sites

From the outset, ACYF has worked with a Training and Technical Assistance (T&TA) contractor. Although there have been changes in the organizations providing these services, the basic ACYF T&TA philosophy has remained consistent. The T&TA contractors have provided resources to the PDC sites, collectively and individually, by developing or collecting materials and references relevant to the concepts involved in PDC or to activities required for implementation. T&TA staff have represented various fields of expertise important to PDC programs, such as developmental psychology, educational administration, teacher training, and multicultural education. But in addition to being able to assist local PDC sites in specific areas, field specialists assigned to each site by the T&TA contractor have dealt with general implementation themes, such as ways to achieve participation in the planning process by all the groups concerned with PDC.

One of the most important methods of providing support for the local sites has been the national workshops. Approximately twice a year, ACYF has used the T&TA contractors to manage these workshops, which staff from each PDC site attend. The conferences have had different themes which have enabled participants to focus on topics of particular concern, such as multicultural education, parent involvement, or preparing for local institutionalization of PDC once federal funding ceases. Participants have included parents, teachers and school administrators in addition to the PDC staff. Outside experts have been invited to conduct workshops at these meetings and evaluation contractor staff have attended to facilitate communication with the programs about evaluation activities.

III

A FRAMEWORK FOR STUDYING PDC'S PROCESSES AND EFFECTS

The evaluation has been largely shaped by a particular conception, derived from the PDC guidelines, of the intended effects of PDC and the sequence of changes expected and required to bring about those effects. Before describing the design and methodology of the evaluation, we will in this section attempt to make this conceptual framework more explicit. This discussion has three parts. In the first two, we present a general model of the intended effects of PDC, along with a consideration of the PDC "treatment" and how, as described in the guidelines, it was intended to produce the desired effects. In the third part we describe the process that was used to move from the basic framework to the specification of particular variables and appropriate data collection instruments for this phase of the evaluation.

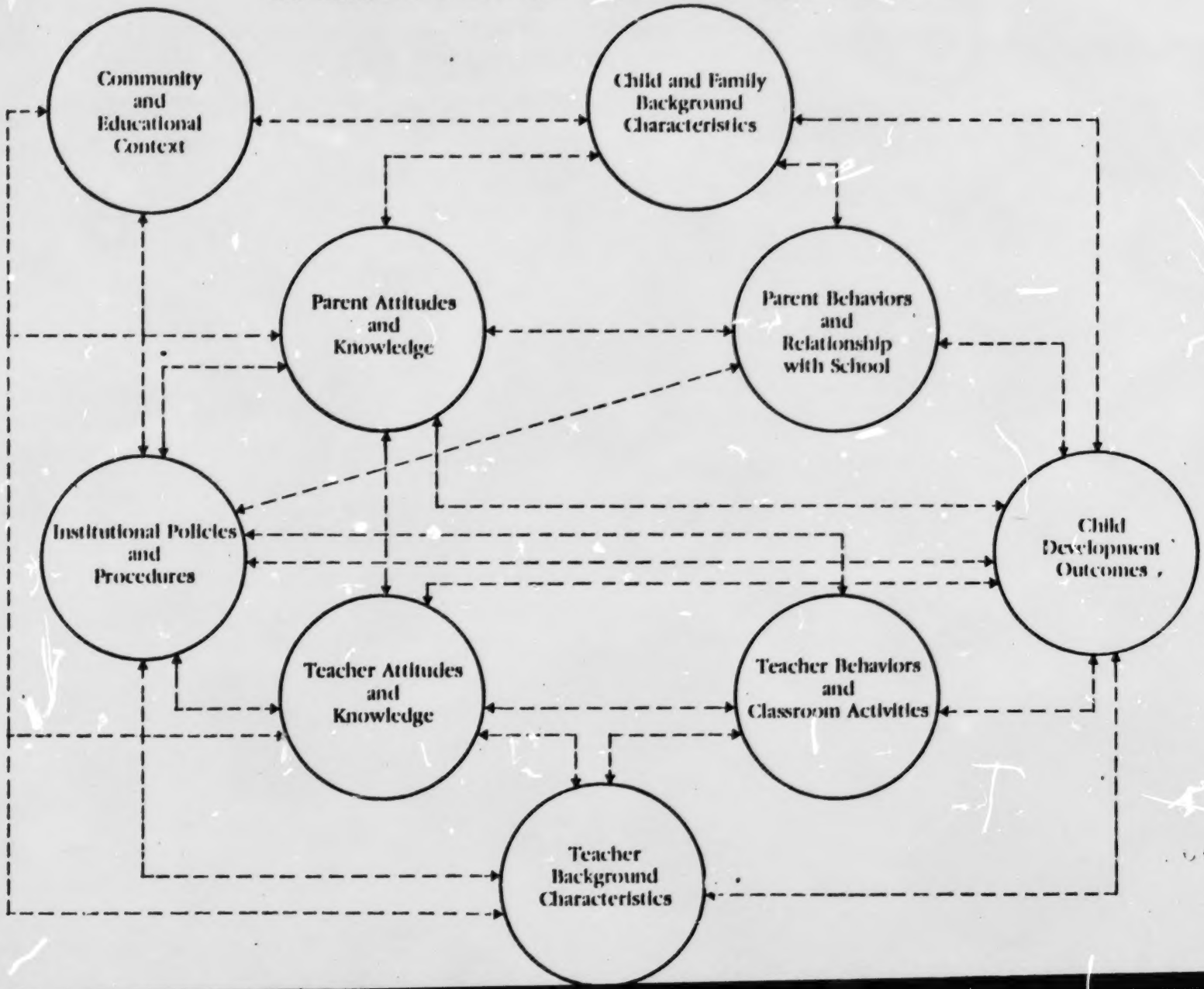
Some Orienting Assumptions: The Concept of Developmental Continuity

The basic assumption underlying the PDC program and consequently this evaluation is that the condition of developmental continuity implies a complex interaction involving an array of factors, both within and outside the school. As a result of this assumption, PDC was designed to be a comprehensive intervention into many aspects of the school, home and community. However, although the implications of this basic assumption pervade the program, the PDC guidelines never fully explicate this assumption.

In order to design an evaluation that is sensitive to the particular goals of the PDC program it was necessary to distill from the guidelines the concept of developmental continuity that appears to have shaped program guidelines. Figure 1 summarizes the results of this exercise. We must emphasize that this conceptualization is not at present a theory to be tested by the data. Rather, it represents an orienting framework that has provided a basis for generating an analytic model, out of which have come research questions, variables, and data collection methodologies. We have used this orienting framework to guide the analysis and reporting of evaluation data.

Simply stated, the conception of developmental continuity implicit in PDC suggests an interactional model that appears to include: (a) a child's intellectual, social, and physical development and background and experiences in home and school; (b) the attitudes, knowledge and background characteristics of parents and teachers; (c) the policies and procedures that prevail in the public school or Head Start center; and, (d) the broader political, social and economic context of the school district and community.

Figure 1
The Conception of Developmental Continuity Assumed In PDC


Community and Educational Context
Child and Family Background Characteristics
Parent Attitudes and Knowledge
Parent Behaviors and Relationship with School
Institutional Policies and Procedures
Child Development Outcomes
Teacher Attitudes and Knowledge
Teacher Behaviors and Classroom Activities
Teacher Background Characteristics

We will return later to consideration of how each of the classes of factors in Figure 1 was defined operationally for this evaluation, and of what variables were measured in each domain. For the moment, however, the following general definitions will suffice:

- Child development outcomes. These, of course, are the ultimate concern of the PDC program. The stated goal of PDC is to enhance children's "social competency." According to the guidelines, social competence includes intellectual achievement, health and nutrition, social-emotional and language development, physical and mental health, and learning attitudes.

- Parent behaviors. This domain includes parent behaviors toward the child in the home, and the role that the parent plays in school life.

- Parent attitudes and knowledge. Especially important in this domain are parent attitudes toward the school or center and parent knowledge of child development and available community resources.

- Teacher behaviors and classroom activities. This domain refers to the child's experiences in the classroom and to the role of the teacher in these experiences. It includes the physical environment that the teacher creates for the child in the classroom, the instructional approach that the teacher employs, the management style of the teacher in his/her dealings with the class, and the general climate that the teacher establishes in the classroom for the children.

- Teacher attitudes. A broad and often-noted domain in the program guidelines, this category refers to teachers' instructional practices and their perceptions of, and attitudes toward parents, particularly parent involvement in their classrooms, and their personal educational philosophy.

- Institutional policies and procedures. This domain includes the activities and procedures that are found outside the classroom, but which influence what goes on in the classroom. Such policies and procedures include the decision-making bodies and mechanisms that exist in the school, the management structure found in the school, procedures for providing services to children either inside or outside the classroom, patterns of communication and coordination in the school and between the school and other institutions, and training that the school provides for teachers, parents, and staff.

- Community and educational context. No school or family exists in a vacuum. The program guidelines recognize that everything that occurs in either setting is shaped and on occasion constrained by cultural, political, and economic factors in the community, and by priorities, policies, and programs of the school district. Another important feature of the community context is the services for families and children that are available from agencies outside the school.

- Child and family background. Although not generally susceptible to change by school programs, the background of the child and his or her family are recognized in the guidelines to be important determinants of development. This domain includes such factors as ethnicity, SES, parents' education and employment status, language spoken in the home, and prior preschool experience.

- Teacher background characteristics. The guidelines say little about particular effects of specific background characteristics, but they and the literature do suggest that such factors are important influences on the teachers' behavior and ultimately on child development. The guidelines refer specifically to certain experiences that at least some program teachers should have had, such as training in bilingual education, or training in child development; the literature also suggests that ethnicity, number of years of teaching experience, and experience in special projects also influence teachers' professional behavior.

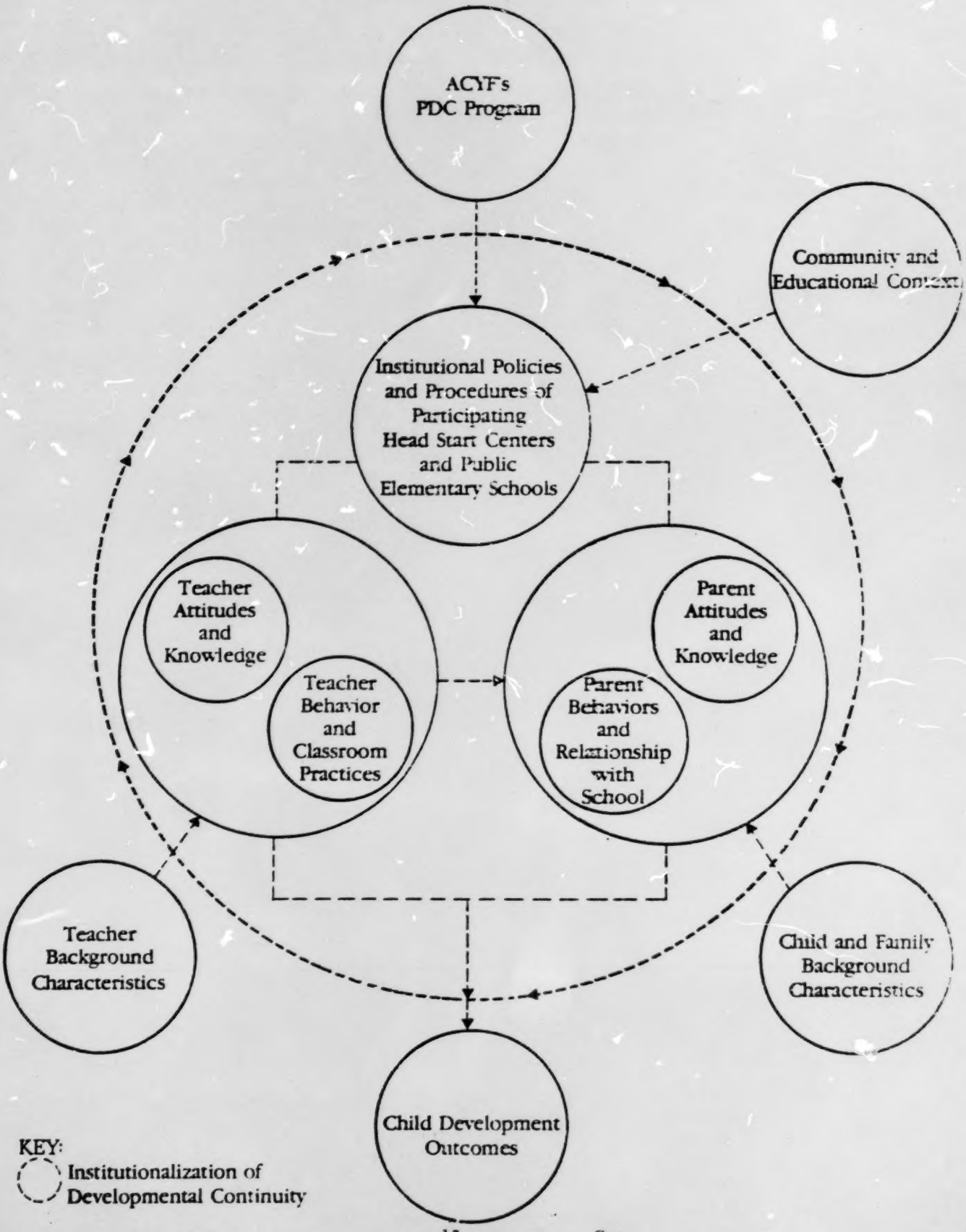
The PDC guidelines do not discuss the precise interactions that are assumed to exist among these various factors. Consequently, Figure 1 portrays only a cycle of continuous interactions that is driven by incremental changes acting on each other in a positive way. One objective of this evaluation will be to explore and describe the strength and direction of relationships between variables within each domain.

However, the guidelines are quite clear in specifying an order in which changes occur to produce impacts on elements of the interactive cycle represented in Figure 1. Any program that seeks to create developmental continuity must first impact on institutions, and through them on parents and teachers, before it impacts on children. Figure 2 presents an analytic model that describes the direction of this change flow.

As shown, PDC is expected to produce first certain interactive conditions favorable to the institutionalization of developmental continuity, which are then expected to lead to changes in child development outcomes. The operational strategy for producing these favorable conditions is to bring about the institutional or structural changes that then make it possible for institutional actors (administrators, teachers and parents) to engage in educational practices that are mutually reinforcing and developmentally continuous. At first, it is expected that the change flow will be moderated by the community and educational context as well as teacher, child and family background characteristics. But ideally, of course, the expectation is to create a chain of interactive changes that spread over time to eventually produce the kind of developmental cycle illustrated in Figure 1. In a sense, then, the analytic model of Figure 2 represents an early stage in the PDC implementation process, and the ultimate steady state is represented by Figure 1.

Figure 2

The Change Flow Assumed in PDC



What Is the PDC Treatment?

We have noted that the ultimate goal for the PDC program is to enhance the social competence of the children it serves by providing developmental continuity. Some of the assumptions implicit in the guidelines about the interactive factors involved in this process have already been examined. The question we must ask next is exactly how the PDC project was intended to impact upon the factors that the guidelines assume will be present in developmental continuity. In other words, what is the PDC treatment?

Again, the program guidelines offer the best starting point for answering this question. In the introduction to these guidelines the following statement appears:

> "Project Developmental Continuity is aimed at promoting greater continuity of education and comprehensive child development services for children as they make the transition from preschool to school...Developmental Continuity, as it is used here, can be defined as planned programs, structures, systems, or procedures by which adults provide children with experiences that foster and support continuous development." (emphasis added)

Project Developmental Continuity seeks to enhance children's social competency by creating greater continuity among children's experiences in the school and between children's home and school experiences. The guidelines do not attempt to specify what continuity of experience should look like, but instead outline a set of planned programs, structures, systems, or procedures that, if implemented, will result in the desired continuity. These structures, then, are the basic PDC treatment that should be present at all sites; within this general framework each site is free to develop its own program.

Table 1 contains brief descriptions of the structures or programs prescribed in the guidelines for project sites. These prescriptions outline a set of activities for all PDC programs to implement. Following the earlier model, these guidelines are aimed at the classroom, at parents, and at the school or center as an institution.

Identifying an Evaluation Methodology Appropriate for the PDC Treatment

Having specified the PDC treatment as described in the guidelines, the next step was to develop an evaluation design that was appropriate to the goals of the PDC program. Although this process also began with the program guidelines it was necessarily shaped by other considerations

Table 1

The PDC Treatment as Described in the Guidelines

Planned Programs, Structures, Systems or Procedures that Foster and Support Continuous Development

At the Institutional Level

Planning and Decision Making

1. Formalized broad representation in decision-making groups including parents, staff (Head Start and elementary), community representatives involved in education, health, nutrition, and social services.
2. Procedures for ongoing discussion and refinement of the curriculum that include parents, teachers, aides, etc.
3. Establishment of a formal or informal internal assessment system for monitoring the school's progress toward meeting its goals and objectives.

Management

1. Assign responsibility for education, handicapped, bilingual, etc. to specific individuals at Head Start and elementary levels.
2. Provisions for coordination from Head Start through grade 3 of services to meet the educational and social needs of handicapped and bilingual children.
3. A coordinated parent involvement program from Head Start through grade 3.

Training

1. Provide training on decision making and policy making for members of decision-making groups.
2. Provide training on the goals and objectives of both the Head Start and elementary programs.
3. Provide training to make staff and volunteers sensitive to special needs of handicapped children.
4. Provide training for parents in how to work with teaching and administrative staff.
5. Provide training for classroom volunteers.
6. Provide training for parents in how to work with their own children.
7. Provide training for parents in child growth and development.

Table 1
(continued)

Training (continued)

8. Provide training for parents in available community resources.
9. Provide training for teaching staff in meeting the needs of bilingual children.
10. Provide training for teaching staff in the principles of first aid, health, and safety practices.

Communication and Coordination

1. Communication between decision-making bodies and Head Start and elementary school parents.
2. Regularly scheduled communication and coordination between Head Start and elementary teaching staff.
3. Continuity of record-keeping, Head Start through grade 3.

Provision of Services

1. Provision of a broad range of medical, dental, mental health, and nutrition services.
2. Comprehensive screening and diagnostic assessment of every child upon enrollment.
3. An annual survey to identify handicapped children.
4. Provision of an interpreter when needed.

At the Level of Classroom Activities

A Continuous Coordinated Curriculum

1. Develop or adopt a compatible, coordinated curriculum from Head Start through third grade.
2. Have a curriculum that facilitates the learning of basic educational skills for reading, writing, and computation.
3. Have a curriculum that provides continuity of educational and developmental experiences, Head Start through grade 3.
4. Develop a curriculum plan that includes goals and objectives statements in each subject or developmental area.

Table 1
(continued)

Individualized Instruction

1. Curriculum must be developmentally appropriate.
2. Instruction must be individualized.
3. Develop a diagnostic and evaluative system that enables teacher to pinpoint developmental levels of each child based on the child's diagnosed strengths and weaknesses.
4. Former teachers consulted when planning educational objectives.

Multicultural Perspectives

1. Provide bilingual/multicuitural classroom activities, materials and resource persons for all children.
2. Develop a compatible Head Start-elementary school approach regarding bilingual education.

Classroom Services for Handicapped Children

1. Handicapped children mainstreamed to the maximum extent possible.
2. Early diagnosis and evaluation of children with learning disabilities.
3. Special materials, structural changes, or classroom reorganization provided as appropriate for accommodating handicapped children.

Whole-Child Perspective

1. Have a curriculum that encourages the physical and social-emotional growth of children.
2. Health education and nutrition integrated with other educational objectives and activities.
3. Meals and snacks used as an opportunity for learning.
4. Provide nutritional services that reinforce good aspects of foods served at home.
5. Familiarize children with health services they will receive prior to delivery.

Use of Community Resources

1. Bilingual/multicultural resource persons used in the classroom.

Table 1
(continued)

At the Level of the Home and Home-School Activities

Home-School Communication

1. Parents involved in planning educational objectives for their children.
2. Parents given summary of records on health, medical services and immunization.
3. Parents familiarized with available health services.

Parent Involvement in School Life

1. Parents involved in all decision-making bodies.
2. Parents involved in all school decisions.
3. Activities provided for parents that relate to cultural dynamics.
4. Parents used as resource persons in the classroom.
5. Parents involved in classroom activities, special parent events, activities that stress home-school continuity.
6. Parents involved as observers, aides or volunteers in the classroom.

Home Activities with Children

1. Parents encouraged to become involved in health care process.

as well. First, PDC is not a static program, launched and maintained by an immutable set of guidelines. Local programs through their experiences and interactions with national ACYF staff have created altered perceptions of what PDC is and should be. These altered perceptions had to be accommodated in the evaluation design. Second, the PDC evaluation itself exists within a broader research and policy environment. New issues and questions are emerging regularly that could appropriately be addressed in the PDC evaluation without compromising the basic evaluation objectives. Consequently, certain research questions and variables have been added to the study in response to ACYF information needs that are not necessarily unique or even directly tied to the PDC treatment as defined in the guidelines. Finally, there are many audiences for the PDC evaluation, each with its own information needs. These audiences include policy makers in Washington, the research and evaluation community, and of course practitioners in the field. Insofar as possible, the needs of these audiences have been accommodated within the evaluation design.

Purpose of the PDC Evaluation

The major purpose of the PDC evaluation is to aid the Administration for Children, Youth and Families in its efforts to design effective programs for children. The evaluation was planned in two phases: the first to determine the feasibility of conducting a longitudinal study of PDC (1974-1977) and the second to carry out that study as one cohort of children progresses from Head Start through the third grade (1979-1982).

Implementation

Efforts to describe and analyze program processes began during the PDC planning year (1974-75) with the preparation of site case studies. During the following year the design for the full Implementation Study was finalized and pilot data were collected at five sites to evaluate the applicability of the interview forms and the procedures for rating implementation levels. On the basis of the analysis of the pilot data, modifications in procedures were made and a major instrument for assessing implementation, the Implementation Rating Instrument (IRI), was finalized.

During the third program year, this instrument was applied to the interview data and other documentation from nine sites to provide a comprehensive assessment of implementation activities in PDC. Three additional sites were included in various documentation activities but did not receive the systematic implementation ratings. At the thirteenth site, a Navajo program in Arizona, a case history approach to assessing both implementation and impact was taken.

Overall Design of the Phase II Longitudinal Study

The longitudinal study design was established by the original evaluation RFP in 1974. It specified that one cohort of PDC children and their families would be identified and repeatedly assessed, from the time the children entered Head Start until they completed third grade. It further specified that the performance of these children was to be contrasted with that of a comparable group of children who had also attended Head Start, but who went on to attend non-PDC elementary schools. Comparison-group children were selected because the schools they were to attend were judged similar in important respects to the PDC schools. Considerable effort was devoted in the first phase of the evaluation to determining which schools should serve as comparisons for the PDC schools, and a survey was conducted in spring 1979 to obtain updated information on the comparability of the schools.

In light of continuing controversy regarding Head Start's effectiveness, it is critical that the nature of the PDC evaluation design be understood: the comparison group consists of children who <u>also</u> attended Head Start. In other words, the PDC evaluation was designed to compare the effects of Head-Start-with-continuity against Head-Start-without-continuity; it was not designed as an evaluation of the Head Start program, <u>per se</u>. The reader should bear in mind when judging our findings that <u>both</u> groups--PDC and comparison--comprise Head Start children and their families.

Research Questions, Constructs, and Variables

This phase of the PDC evaluation is designed to address three basic questions:

1. *What impact has the PDC program had on (a) children's development, (b) parents' knowledge and attitudes, (c) parents' behaviors, (d) teachers' attitudes and knowledge, (e) teachers' behavior and classroom activities, and (f) institutional policies and procedures?*

2. *Irrespective of treatment, what factors or patterns of factors help account for meaningful outcomes in each domain?*

3. *To what extent do these factors affect the relationship between the PDC program and its impacts?*

Stated differently, the first task of the PDC evaluation is to determine PDC program effects through comparisons of PDC and comparison teachers, parents, and children on selected variables. For example, the frequency of parent visits to PDC and comparison schools is compared to determine whether PDC has had any impact on that aspect of parent involvement in schools. The next task is to explain the results of these comparisons using whatever qualitative and quantitative information is available. For example, at sites where there are relatively few or no differences between PDC and comparison parents' involvement in the school, we may find that the comparison schools have instituted a parent involvement program patterned after PDC's. It might be reasonable to conclude from this that, contrary to appearances, PDC has indeed had an impact upon parent involvement in the schools in question, and that impact has diffused to the comparison institutions.

Having examined the similarities and differences between PDC and comparison groups along various dimensions, the final task for the evaluation is to examine the relationships among child, parent, teacher, institutional, and community variables, disregarding the PDC/comparison grouping. Extending the preceding example, we might discover that schools with active and successful parent involvement programs, be they PDC or comparison, tend to have similar institutional policies or procedures (such as regular newsletters, parent training programs, and designated parent involvement coordinators) that foster greater involvement by parents in school activities. While findings such as these may not reflect directly on the effectiveness of the PDC treatment, they would be of obvious interest to educators and policy makers wishing to expand the role of parents in school programs.

Constructs Addressed by the Evaluation

As we have said, a pervading concern in the design of this evaluation has been ensuring that the domains and variables measured are indeed relevant and appropriate to the objectives of the PDC program. The development process that was followed to accomplish this end has already been described. Following this process a set of constructs was identified in each impact domain for attention by the evaluation. These constructs are listed in Table 2.

For the most part, these constructs follow the conceptualization of the PDC treatment that was mapped in the program guidelines and refined by ACYF and project staffs (see Table 2). Thus, the constructs described in the table generally represent the areas in which PDC was supposed to have impacts, and areas in which the nature and direction of PDC/comparison differences could be predicted. There are some exceptions to this general rule, however. Most exceptions are found in the domain of Teacher Behaviors and Classroom Activities, where several constructs--Structure and Content of Classroom Environment, Classroom Climate, Intellectual Stimulation, Classroom Management, and Instructional Approach--were added despite the fact that the guidelines are virtually silent about the specific impacts that PDC should have in these areas. They were included in the evaluation because other research has indicated that behaviors in each may contribute significantly to child development outcomes. Although few hypotheses could be formulated about PDC/comparison differences in these areas, they were nonetheless included because of their potential utility in answering Research Questions 2 and 3.

Variables and Data Sources

For each construct in every domain an array of variables was identified through consultation with ACYF, local project staff, and outside experts, following the procedures outlined earlier. For each variable, decisions were made about the best sources of information and data collection methodology. Wherever possible an attempt was made to "triangulate" on the desired information by collecting data on the same phenomenon in multiple ways from different sources. Table 3 lists the data collection instruments and methods developed for the evaluation; more extensive descriptions of the instruments can be found in Volumes II, III, IV, and V of the series.

Table 2

Domains and Constructs Addressed by the PDC Evaluation

Child Development Outcomes

- Academic skills and abilities
- Health and nutrition status
- Social-emotional development
- Learning attitudes
- Classroom behavior

Parents' Behaviors

- Role of parents in school life
- Parent-child activities in the home

Parents' Knowledge and Attitudes

- Parents' attitudes toward the school as an institution
- Parents' perceptions of the schools' help in meeting the needs of their families

Teachers' Behaviors and Classroom Activities

- Structure and content of classroom environment
- Delivery of special services to children
- Classroom climate
- Meeting needs of handicapped children
- Intellectual stimulation
- Home-school continuity
- Contacts with other teachers
- Instructional approach
- Classroom management
- Individualization of instruction
- Use of community resources
- Meeting affective/emotional needs
- Multicultural perspective

Teachers' Attitudes

- Attitudes toward parental involvement
- Perceptions of change
- Attitudes toward the school/center

Institutional Policies and Procedures

- Planning and decision making
- Provision of services
- Use of community resources
- Communication and coordination
- Training

Table 3

Data Collection Methodologies*

Child Development Outcomes

Instrument	Type	Abbreviation
Peabody Individual Achievement Test	Individually administered published test	PIAT
McCarthy Scales of Children's Abilities	Individually administered published test	MSCA
Bilingual Syntax Measure	Individually administered published test	BSM
Preschool Interpersonal Problem Solving Test	Individually administered published test	PIPS
Child Interview	Semistructured interview followed by interviewer ratings	CI
Child Rating Scale	Teacher ratings of individual children	CRS
Pupil Observation Checklist	Tester ratings of child's behavior during test administration	POCL

Parents' Attitudes and Behaviors

Parent Interview	Structured interview with parents of children in test cohort	PI

*See Appendix A of Volume I for complete descriptions of instruments.

Table 3
(continued)

Teachers' Attitudes, Knowledge, and Behaviors

Instrument	Type	Abbreviation
Teacher Interview	Structured interview	TI
Classroom Environment Observation	Checklist and rating form	CEO
Classroom Activities Record	Time-sampling observation and rating form	CAR
Focused Observations	Semistructured observations and rating form	FO

Institutional Policies and Procedures

Administrator Interview	Structured interview	AI
Case Studies	Documents prepared by Pacific Consultants for ACYF in 1978-79	--
Site Visits	One-week visits by High/Scope staff	--
Site Records	Minutes, training records, etc. kept by local project staff	--

Data Collection Procedures

The data collection routine, designed to result in data of the highest possible quality, included the following:

- An organizational structure for individuals involved in the data collection effort was outlined, role responsibilities were defined, and detailed training manuals were produced.
- Training models were designed that specified tester and observer performance standards and provided for sessions with large-group, small-group and individualized instruction, daily reviews of each field staff's performance, and discussion of potential problems.
- Onsite monitoring of field staff by trainers was conducted prior to the start of the actual data collection.
- During the data collection period, testers were responsible for monitoring each other's performance on a weekly basis.
- Site coordinators collected completed data each week and checked it for obvious errors or omissions before sending it to the High/Scope Foundation.

Data Analysis Procedures

Six types of analyses were performed on spring 1979 data:

- descriptive characteristics of PDC and comparison group samples for which data were collected in spring 1979;
- attrition patterns in the spring 1979 samples, and their consequences;
- characteristics of the instruments in the spring 1979 PDC battery;
- effects of the PDC program on participating children, both over time and as of spring 1979, when most of the children were in grade 1;
- analyses of effects of PDC on parents, on classrooms and teachers, and on schools and institutional settings;
- analysis of relationships among teacher, parent and child variables.

The several steps of these analyses and the results are described fully in Volumes II, III, IV, and V of this report and are summarized in this volume.

IV

IMPACT ON INSTITUTIONS

PDC has been implemented at sites that differ in many ways. The social and educational contexts of the PDC sites have influenced the nature and strength of PDC implementation. In addition, PDC has had an impact on the institutional policies and procedures of participating Head Start centers and elementary schools. This section summarizes findings about the effects of context factors on PDC implementation and of PDC on institutional policies and procedures, and suggests our interpretations and conclusions about PDC's influence in producing institutional change as of spring 1979.

Contextual Influences on PDC

Four broad factors are seen as crucial to implementation of PDC within the context of each site: the community context, the institutional environment, administrative norms and practices, and curricular philosophy and practices. While these four factors had a significant influence on PDC implementation at all the sites, they also interacted with PDC in a distinctive manner from site to site. Thus, while certain aspects of the social and educational setting generally seem to be important in determining the nature of implementation, they are not important in the same way from one setting to another.

The community contexts and institutional environment within which PDC has been implemented have had a range of influences on the program, from constraining to catalytic. These environments have changed over the years and our "reading" of them in spring 1979 may not reflect what they were like in 1974-75. Their effect has been, most broadly, to create a "predisposition" to successful implementation. Values, social trends and historical experiences among institutions have been the "intangibles" that various actors have drawn upon in relating to PDC. At times, the merits of the program, its uniqueness, have not been what participants have seen; instead they have associated their previous experiences with similar programs in evaluating PDC's "potential" and worth. The values inherent in the program have been crucial to a determination that such a program should be supported, but the sometimes variable "climate" in which the program has grown has clearly affected the nature of that growth.

Among the various actors within the context surrounding PDC, administrators have had a critical influence on the nature of PDC implementation. Patterns of decision-making, administrative rules, communication channels, and the support of those outside the program have all had a reverberating effect inside the program. PDC is not being implemented in a vacuum; rather

it is developing and evolving in an already full educational environment, with existing curricula, other programs and activities, and more or less fully developed rules for decision-making in various domains. Thus, the cooperation of those already empowered in that changing, full environment has been crucial--it has been, in many ways, up to them to make a space for PDC.

Curricular philosophy and practices of the school district influenced PDC significantly because PDC brought to its settings a philosophy that had clear implications for curricular practice. PDC was designed to bring about institutional change, guided by a clear philosophy of the kind of educational programming that most effectively meets children's needs. PDC appears to have had only moderate influence on the formal district curriculum used in the PDC schools, largely because curricular decision-making is centralized in the large majority of school districts. But PDC has been able to influence curriculum significantly in the sense that curriculum means the entire network of programs and services offered by a school.

The working out of a variety of relationships and responsibilities, the development of program and curricular strategies, the selection of staff for the PDC program, are all elements that appear to have stabilized at this point in time. As the PDC project moves toward its termination as a federally funded demonstration, the external context takes on greater significance in signalling its future. Social and educational trends external to the program are likely to have as much influence on prospects for institutionalization as are the strategies that have been chosen for implementing the program over the last four and a half years. In fact, the internal strategies themselves have been chosen, at least in part, as a response to external pressures, constraints and opportunities.

PDC's Influences on Institutional Policies and Procedures

The contrasts of PDC and comparison schools on the generated variables, as well as analyses of the responses to the individual items in the spring 1979 Administrator Interview, suggest that PDC has had its own influences on participating institutions. These influences can be summarized as follows:

- PDC respondents rated the relative and absolute influence of formal groups on school decision-making more highly than did their counterparts.
- PDC respondents mentioned a greater number of formal groups as involved in school decision-making than did comparison respondents.
- PDC administrators reported a broader range of people as participating in school decision-making than did comparison administrators, especially with regard to parents, teachers and administrators from other schools.

- PDC principals and center directors also listed a broader range of grades or levels of teachers as represented on formal groups than did their colleagues in comparison schools or centers.

- Finally, PDC respondents rated higher levels of increase in teacher and parent involvement in school decision-making over the past three years than did their peers at comparison institutions.

These findings suggest that PDC has been able to produce the institutional conditions for developmental continuity to occur. Generally, procedural mechanisms to allow administrators, teachers and parents to work in concert appear more likely to be in place in PDC than at comparison schools and centers. This conclusion is supported by two factors. The first has to do with increases in the formalization of school decision-making. PDC administrators not only attached more influence to formal groups in school decision-making than did their comparison colleagues; they also reported that more formal groups are involved in deciding about curriculum, individualization of instruction, use of resources and personnel matters.

The second factor relates to increases in the accessibility to school decision-making. A broader range of persons are reported to be involved in making decisions at PDC schools. These persons include parents, teachers, and persons from other schools.

Our current findings on PDC's impact on the policies and procedures of participating institutions indicate that structural provisions for developmental continuity, as measured by increases in the formalization of and accessibility to school decision-making, are generally in place. Respondents' perceptions of greater increases in teacher involvement appear to support this conclusion. Additional support for this conclusion comes from respondents' perceptions of greater increases in the involvement and participation of parents in school affairs. Thus, PDC has generally produced the institutional changes that are necessary if administrators, teachers and parents are to consolidate their efforts to provide children with developmental continuity.

A General Conclusion

As of spring 1979, we can offer a general conclusion. Simply put, in the case of PDC, the direction of influence has been two-way. Although the PDC program has been powerfully shaped by local, external factors, it has produced its own influence in that it has, for the most part, succeeded in creating the formal institutional conditions that are favorable to the enhancement of developmental continuity.

In the now classic Rand study of federal programs supporting educational change, Greenwood, Mann and McLaughlin (1975) pointed to the phenomenon of mutual adaptation as a way of describing what happens in the process of implementing an educational innovation; that is, both the program and the setting are changed. In the case of PDC, we know that a process of mutual adaptation was logically implied in the program guidelines. Local sites were expected to adapt program guidelines to local needs. And we now know that the spring 1979 data suggest the presence of this phenomenon at PDC sites.

V

IMPACT ON PARENTS

One component of the PDC program at each site is parent involvement. The evaluation has described the extent to which PDC programs are implementing the parent involvement program, through interviews with parents, teachers and administrators.

Summary of Findings

Program staff have been successful in achieving PDC's goal of linking the home and school as evidenced by the following:

- PDC parents are more involved in their children's education. They report a greater incidence of observing in their children's classrooms, of visiting the classrooms on their own initiative and of going to school to consult with adults other than their children's teacher.

- PDC parents are more often members of committees or task forces. This involvement reflects not only parental growth in terms of acceptance of responsibility in school matters and appreciation of their own input but also changes in institutional policies and procedures.

- More PDC parents work in school, either on a paid or volunteer basis. Again this relates directly to the program goal of linking the home and school by involving parents in school life.

- Finally, PDC parents rate the school as more helpful both overall and in terms of meeting other parents, finding job training or job placement, taking classes and familiarizing them with support service agencies.

Interpretation of Findings

PDC programs are faced with the task of convincing parents first of the important role they should play in their children's education and second of the need for them to act on that conviction. According to program staff many parents feel school staff and particularly teachers are the experts in educating their children and that parents have little, if anything, to contribute. The evaluation results suggest that PDC staff have made

progress in their efforts to change this belief and to involve parents directly in their children's education. Within PDC schools, parents are involved in decision-making groups as well as in visiting and/or working in classrooms.

The fact that more PDC parents work in school means that school staff are reaching out to parents, asking them to become involved. For many teachers parent involvement in school matters, particularly classroom work, is a foreign concept. PDC has clearly been successful in getting teachers and other school staff not only to accept the need for parent involvement but also to actively encourage it.

The finding that parents rate the PDC school as helpful speaks to the multidimensionality of PDC: PDC focuses on the whole child and his family. PDC parents view the school as a place where their children receive classroom instruction and as an institution that is concerned about the physical, psychological and economical well-being of their family.

After three years of program implementation the sites, as a whole, have been successful in bridging the gap between home and school. They have involved parents in schools in various capacities and have changed parents' perceptions of the school from that of a learning institution to that of an institution concerned with the well-being of families.

Some of the evaluation results from the interviews with parents describe parent interactions with teachers. These findings are supported by results of the interviews with PDC and comparison teachers. Chapter VI describes the information collected from teachers, including their perceptions about the involvement of parents in school activities.

VI

IMPACT ON TEACHERS

We have studied the effect of the PDC program on the attitudes and classroom behaviors of teachers through interviews with teachers and observations in classrooms. Classroom observations were conducted for the grade one classrooms in which the PDC and evaluation students were enrolled, and those teachers were interviewed. In addition, at other grades, a sample of teachers was interviewed and classrooms were observed.

Summary of Findings

The PDC programs have clearly been successful in three important areas: teacher implementation of an individualized curriculum, more frequent teacher participation in formal curriculum planning, and teacher promotion of more parent involvement in PDC schools and centers.

The Teacher Interview revealed that PDC teachers reported more individualization of instruction than comparison teachers in three areas:

- PDC teachers supported more child choice in planning language arts and math activities.
- PDC teachers advocated a wider variety of activities in language arts and math.
- PDC teachers reported working more with individual children or with small groups than with large groups.

The Classroom Observation System corroborated these findings in that PDC teachers were observed as providing a wider variety of activities in language and math than comparison teachers. Moreover, PDC classrooms showed more evidence of accommodations for handicapped children, another indication of individualization of instruction.

In the second important area of program impact, PDC teachers reported more frequent participation with other teachers in formal curriculum committees than did comparison teachers. They also reported a greater increase in knowledge of what goes on at the associated school or Head Start center.

The third major area of interest, parent involvement, shows very significant differences between PDC and comparison teachers. PDC teachers reported a greater change in the kinds of things that parents do when they visit the classroom, more parent involvement in certain nontraditional activities in the classroom, and more positive attitudes toward parent involvement than comparison teachers.

The teacher reports about the involvement of parents validates the self-reports of parents; PDC parents report a greater incidence of observing in their children's classroom and of working in the school on a paid or volunteer basis.

Another focus of the PDC program has been the incorporation into the classroom of community resources. Again, PDC teachers reported more frequent use of people or resources from their community in the classroom than comparison teachers. PDC teachers also reported more frequent discussions with their students about the roles and services provided by various people in the community than comparison teachers.

The findings reported up to this point have all favored PDC teachers. A few items, however, appear to favor comparison teachers. Analysis of one variable from the Teacher Interview and two Global Ratings from the Classroom Observation System revealed higher outcomes for the comparison teachers than for the PDC teachers on: satisfaction with certain extrinsic aspects of their job situations, neatness and organization of their classrooms, and classroom managerial skill (comparison teachers made children wait less often than PDC teachers). A possible explanation for the classroom environment and management findings is that efforts to increase individualization of instruction may result in more cluttered looking rooms and in children having to wait more for individual teacher attention. This, of course, is not always the case, but because there were several aspects of individualization on which PDC teachers were rated higher than comparison teachers, it may have a bearing on the findings. Reasons for comparison teachers reporting greater extrinsic job satisfaction are not apparent and will be explored in future analyses.

Interpretation of Findings

The success of the PDC program in influencing individualization of curriculum, teacher participation in informal curriculum planning, and teacher promotion of more parent involvement is noteworthy. The amount of work required to individualize the curriculum for each child is enormous. Among other things, more planning is required, more testing is required, and a greater diversity of materials is required, all of which necessitate devoting much more time to class preparation and record-keeping. Given the already heavy workload of many teachers, the significant PDC-comparison difference in individualization of curriculum is impressive.

Increased PDC teacher participation on curriculum committees is also an achievement, given their workload and the national trend toward greater centralization of curriculum decision-making. Although texts may be standardized across districts, decisions within buildings, and across and within grade levels, may still be made regarding pacing of material and emphasis,

and this appears to be happening more in PDC schools than in comparison schools. Further, given the traditional isolation of most teachers in their own classrooms, the greater increase in PDC teachers' knowledge of what goes on in another building is also a singular achievement. This increased knowledge indicates major progress toward more coordination between Head Start and the public schools, and is fundamental to developing a continuous curriculum.

The third area of PDC's effect on teachers, that of parent involvement in classroom activities in substantive ways, represents a sharp break with tradition. Assimilating parents into the classroom can be problematic for teachers and can also represent more work for them with little visible benefit. The fact that PDC teachers, both by word and by deed, are more positive toward parent involvement in their classrooms than comparison teachers is a major program achievement.

The consistency of these findings (in teacher interviews and observations) clearly attests to the success of the PDC program in influencing both teacher attitudes and behaviors. The parent descriptions of their greater involvement in PDC classrooms confirm the change in attitudes and behaviors of the teachers.

In view of these findings we can say that, after three years of program implementation, PDC sites on the whole have been successful in bringing about greater individualization of instruction, more coordination both within and across schools and centers, and greater parent involvement in specific kinds of activities in the classroom.

VII

IMPACT ON CHILDREN

In looking at the impact of PDC on the children in the evaluation cohort, we first considered the differences on all the child outcome measures between the PDC and comparison groups. We then looked at the relationship between child outcomes and variables from other domains that might influence child outcomes, such as teacher and parent characteristics and attitudes. The third step involved looking at the extent to which variables in the other domains influenced the relationship of educational treatment (PDC versus comparison) to child outcomes. For example, we considered whether the effect of the PDC or comparison program on the achievement of children differed for children whose parents had different attitudes. A final statement summarizes the findings in general terms and analyzes their implications.

PDC's Impact on Child Outcome Measures

We addressed three questions, each aimed at a different type of overall comparison of test scores for children in the PDC program with children in the comparison groups. The questions were:

> *Considering outcome variables one at a time, are PDC and comparison children different from one another at the end of first grade (spring 1979)? In particular, are there group main effects or group-by-site interactions?*
>
> *Considering all outcome variables simultaneously, are PDC and comparison children different at the end of first grade (spring 1979)? In particular, is there a group main effect or group-by-site interactions?*
>
> *Considering all occasions of measurement of each child outcome variable from fall 1976 through spring 1979, are there trends and patterns over time in group differences or group-by-site interactions?*

The following summary is restricted to analyses for the sample tested in English. The sample of children tested at some times in Spanish was analyzed separately, but we cannot report complete analyses because of problems in interpretation associated with reduced sample size and gross imbalances in distribution across sites.

Summary of Findings for Child Outcome Measures

Peabody Individual Achievement Test - Reading. The comparison groups had a higher average score on the reading test at grade one. When the reading test scores were included in analyses with the other child outcome measures, there was also a difference in the average scores favoring the comparison group. However, when the low-scoring PDC sample from one site which had no comparison group was removed from the total sample, the differences between the PDC and comparison groups disappeared.

There were differences by site in the relationship of the PDC and comparison group test scores:

- At two sites, children from the comparison groups had higher mean PIAT-Reading scores than children from the PDC group.
- At two sites, children in the comparison groups had higher rates of gain in PIAT-Reading scores between spring kindergarten and spring first grade than did PDC children; while at one site, the opposite occurred.

McCarthy Scales of Children's Abilities - Verbal Fluency. There were site-specific differences between the PDC and comparison groups on the verbal fluency scores. The PDC group had higher scores than the comparison group at one site, while the comparison group was higher at another.

Bilingual Syntax Measure - English. A small but statistically significant difference favored the comparison group on the English version of the Bilingual Syntax Measure.

Child Rating Scale-2 "Aggressiveness" Scale. When the rating scale information was analyzed over several rating periods, a difference was found favoring the comparison group. This difference for the total sample resulted from a difference between the PDC and comparison groups at a single site.

Child Rating Scale-3 "Dependence" Scale. A small but statistically significant difference favored the comparison group. Children in the comparison group were rated, on the average, as less dependent than the children in the PDC group. At two sites, there were lower average ratings by teachers over several rating periods for the comparison groups.

Child Rating Scale-4 "Academic Motivation" Scale. A difference favoring the PDC group was discovered for the rating of academic motivation. The difference was small but statistically significant.

Spring 1979 outcome profile. All of the child outcome measures for which information was collected in spring 1979 were analyzed together to generate profiles of the PDC and comparison groups. The profiles of the two groups were significantly different. The differences for individual measures, however, were inconsistent; some favoring the PDC groups and others favoring the comparison groups.

Interpretation of Child Impact Findings

Our interpretations of the findings for child outcome measures through the cohort's first grade (spring 1979) are presented in this section. First, the set of measures used appears to have met the psychometric standards established for the child outcome battery. It also appears to be identifying variation in achievement among children. The bulk of such variation, however, appears to be associated with differences between sites and within groups, rather than with differences between PDC and comparison treatment groups. Second, the analytic approaches used in this report seem appropriate for the task of identifying differences between PDC and comparison groups, since they provide fair consistency in their findings across a variety of approaches. Third, the analyses carried out discriminate between treatment groups and identify outcome differences, but these differences as of the end of the first grade are too small to be educationally meaningful. If there were educationally meaningful differences between PDC and comparison children within the scope of the outcomes measured, we believe our analytic procedures would identify them.

On the basis of our analyses of impact on child outcome measures for grade one we conclude, therefore, that there are no significant, educationally interpretable differences overall between PDC and comparison groups of children.

Some differences at the level of individual sites do appear between PDC and comparison groups. Site-level analyses, however, require techniques different from those used for analyses of child outcome measures for the total sample of children across all sites. Statistical adjustments that were correct for initial differences between the total PDC and comparison group samples at the time of entry into the Head Start program may leave large differences between groups at particular sites on the entry-level measures. These differences may in turn affect site-level outcome differences between treatment groups identified in the statistical analyses. We will examine site-level phenomena in greater depth in analyses conducted at subsequent grade levels (two and three), utilizing procedures tailored to site-specific analyses.

Another finding about the evaluation sample is that the samples of PDC and comparison children available for testing in spring 1979 are no longer fully comparable. PDC children remaining in the sample at grade one had lower test scores on tests given at entry into Head Start than comparison children. The profiles of entry-level test scores were different for the two groups. Though these differences were not large, they consistently favored the comparison group. No group differences appeared on demographic variables such as race and socioeconomic status. The issue of the changing comparability of PDC and comparison members of the study cohort will be a specific focus of analytic concern in the future; our aim will be primarily to come to understand how it happened.

The Relation of Other Study Measures to Grade One Outcomes, Regardless of Treatment

We conducted preliminary analyses to determine whether there are associations between the child outcome measures and the variables which measure aspects of family background, teacher background and teacher attitudes, and the behaviors that may be considered to be program "outcomes." These analyses are preliminary because they are based on only one year's data, because we have not yet developed a detailed model of the expected relations between these areas, and because they make certain conservative assumptions about the appropriate ways to group results for analyses across the variable groups. These preliminary analyses demonstrate that certain relationships can be identified between child outcomes and background variables for teachers and parents, as well as teacher attitude and behavior variables. We will conduct further analyses with data from later grades.

Summary of Findings

Family background and child outcomes. Family characteristics show consistent and positive associations with grade one child outcome measures. The broadest range of such associations occurs for mother's education and family income. Higher levels of mother's education and family income are associated with higher scores on several of the child outcome measures. The relationships were small but consistent and statistically significant. These findings are consistent with the usual findings of relationships between family social status and child achievement. Family income and the educational level of the mother are frequently included in definitions of family social status.

Teacher background and child outcomes. Perhaps the most notable relationship between teacher background and child outcomes is a negative one: none of the more traditionally "academic" child outcome measures (such as the two Bilingual Syntax Measures--English and Spanish tests or the two Peabody Individual Achievement Tests--Reading and Math) show any relationship to teacher background variables. Instead, measures of teacher background show relationships with child outcomes related to task and interpersonal competencies. The number of years of teaching at a school is related negatively to "Aggressiveness" (with the teachers with the most experience rating the children as least aggressive), and to "Dependence"--both measures being based on teacher ratings. The teacher's educational level is related positively to ratings of students on "Task Orientation" and "Sociability," based on pupil observations and to "Interest in Reading," based on interviews with children.

Teacher outcomes and child outcomes. The observer's rating of the teacher's extent of structuring in language arts and in mathematics activities in the classroom is associated with students' scores on the Bilingual Syntax Measure--English. Teachers with children with higher scores on this measure were teachers who tended to be rated as providing more child-centered activities or a more heterogeneous approach to instruction.

A second composite measure (from ratings based on teacher interviews), the extent of teachers' efforts to adapt the educational program to the needs of individual children, showed significant associations with two ratings of the children by teachers: "Self Assurance" and "Academic Motivation." Since these associations are based on information from the teacher, the implication is that those teachers who saw themselves as trying the hardest to adapt their educational efforts to individual child needs were also the ones who rated their children highest on "Self Assurance" and "Academic Motivation."

Relationships Regardless of PDC or Comparison Program

Relationships between family background variables and child outcomes are consistent with past findings. The information about family background can be used to remove the effect of family social status from the child outcome scores, to more clearly reveal the effect of other variables on child outcomes.

Since family structure and mother's employment are related to different aspects of child outcomes, we need to look at the relationship between family structure and mother's employment to understand more fully their influences on child outcomes.

Some relationships were found between teacher background, attitude and behavior variables. Teacher background, attitude and classroom instructional behavior variables are related to teacher ratings of their students and to child outcomes which are less traditionally "academic."

Relationship Between Program, Other Variables and Child Outcomes

We studied the relationship between educational treatment (PDC or comparison) and child outcomes in relation to other variables such as parent and family characteristics, teacher background or outcomes for teachers. We found no interactions between the educational treatment and other variables in their action upon child outcomes. In other words, the program's impact on children so far has not been found to differ when different family backgrounds, or teachers showing different levels of program impact themselves are considered.

Membership in a PDC or comparison group did not help to account for more of the variation in child outcome measures, after we used variables such as family background, site differences, and the attitudes and instructional behavior of teachers. However, a number of these analyses still remain to be carried out. During the next analytic stages, we will develop more detailed ideas about the ways in which educational treatments such as the PDC program might influence child outcomes, as well as the ways in which other variables might affect that relationship. These more detailed approaches will then guide us in conducting analyses and in forming their results into a coherent whole--an organized picture of the impact of Project Developmental Continuity on its children.

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